

Revision Date: 03.10.2020

Version 1.3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier**Product Name: Butanediol Cleaner

GTIN/EAN No.: 5907745979729, 5907745979712, 5907745979705, 5907745979750, 5907745979743

Synonyms: 1,4-Butanediol, 1,4-BDO, BDO, 1,4-butylene glycol

1.2. Relevant identified uses of the substance or mixture and uses advised againstRecommended use: Industrial applications
Individual applications as a cleaning agent

Advised use: No data available

1.3. Details of the supplier of the safety data sheetCompany: Nitrochemis
Sanocka 11/20
53-304 Wroclaw, Poland
Telephone: +48 507 733 248
E-mail: biuro@nitrochemis.pl**1.4. Emergency telephone number**Emergency Phone 112
998 (Fire brigade)
999 (Ambulance Service)**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture**

Acute toxicity, Oral - H302 (Category 4)

Specific target organ toxicity - single exposure, Central nervous system - H336 (Category 3)

2.2. Label elements

Pictogram: Warning

Hazard statement(s)

H302 - Harmful if swallowed

H336 - May cause drowsiness or dizziness

Precautionary statement(s)

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

2.3. Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Component	EC No.	Concentration	CAS No.	Classification	REACH No.
1,4-Butanediol	203-786-5	99	110-63-4	Acute Tox. 4 (H302) STOT SE 3 (H336)	01-2119471849-20

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

In case of eye Contact	Flush eyes with water as a precaution. Consult a physician.
In case of skin Contact	Wash off with soap and plenty of water. Consult a physician.
If swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

No data available

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Carbon oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURE

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

6.2. Environmental precautions

Do not let product enter drains. For more information see section 12.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

For disposal see section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Combustible liquids.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace control parameters Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters.

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
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Workers	Skin contact	Long-term systemic effects	19 mg/kg BW/d
Workers	Inhalation	Long-term systemic effects	136 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	0,244/kg mg/kg
Marine water	0,0813 mg/l
Fresh water	0,813 mg/l
Marine sediment	0,361 mg/kg
Fresh water sediment	3,61 mg/kg
Onsite sewage treatment plant	1554 mg/l
Aquatic intermittent release	8,13 mg/l

8.2. Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1. Information on basic physical and chemical properties

Appearance	Form: viscous Colour: colourless
Odour	Odourless
pH	7-8
Melting point	16°C / 61°F - lit.
Initial boiling point and boiling range	230°C / 446°F - lit.
Flash point	134°C / 273°F - closed cup
Flammability (solid, gas)	No data available
Vapour pressure	0,019 hPa at 25°C - OECD Test Guideline 104
Vapour density	3,11 (Air = 1,0)
Relative density	1,017 g/cm ³ at 25°C - lit.
Water solubility	100 g/l at 25°C - OECD Test Guideline 105 - completely miscible
Auto-ignition temperature	385°C at 1,013 hPa
Decomposition temperature	No data available
Viscosity	83,2 mm ² /s at 20°C

9.2. Other information

Dissociation constant 14.5

Relative vapour density 3.11 - (Air = 1.0)

SECTION 10: STABILITY AND REACTIVITY
10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Strong oxidizing agents, Acid chlorides, Acid anhydrides, Reducing agents

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions - Carbon oxides.

Other decomposition products - No data available

SECTION 11: TOXICOLOGICAL INFORMATION
11.1. Information on toxicological effects
Acute toxicity

LD50 Oral - Rat - male and female - 1,500 mg/kg

LC50 Inhalation - Rat - male and female - 4 h - > 5.1 mg/l (OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 5,000 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Respiratory or skin sensitisation

Maximisation Test (GPMT) - Guinea pig
Result: Does not cause skin sensitisation

Germ cell mutagenicity

In vitro mammalian cell gene mutation test
Chinese hamster ovary cells
Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity Rat - male and female - Oral - NOAEL : 50 mg/kg - LOAEL : 500 mg/kg
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
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Stomach - Irregularities - Based on Human Evidence

SECTION 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - > 30,000 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 813 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - > 500 mg/l - 72 h

12.2. Persistence and degradability

Biodegradability aerobic - Exposure time 10 d Result: 90 - 100 % - Readily biodegradable (OECD Test Guideline 302B)

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0,1% or higher.

12.6. Other adverse effects

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG/IMO	IATA
14.1 UN Number	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.2 UN proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No	No	No
14.6 Special precautions for user	No	No	No

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety data sheet complies with the requirements of Registration (EC) No. 1907/2006.

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECI
1,4-butanediol	203-786-5	-		x	x	-	x	x	x	x	KE-03788

x - is on the list

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

Full text:

EINECS - European Inventory of Existing Commercial Chemical Substances

ELINCS - European List of Notified Chemical Substances

NLP - No-longer Polymers

TSCA - Toxic Substances Control Act

DSL - Domestic Substances List

NDSL - Non-Domestic Substances List

PICCS - Philippine Inventory of Chemicals and Chemical Substances

ENCS - Japanese Existing and New Chemical Substances Inventory

IECSC - The Inventory of Existing Chemical Substance in China

AICS - Australian Inventory of Chemical Substances

KECI - Korea Existing Chemicals Inventory